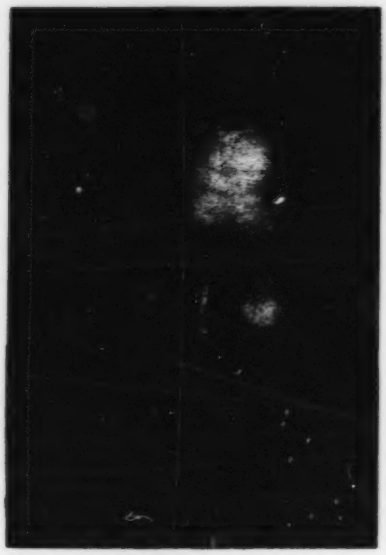
Eighth Annual Report 1981-1982

MACHINERY INSTITUTE

PRAIRIE AGRICULTURAL MACHINERY INSTITUTE



Honourable
Gordon MacMurchy
Minister of Agriculture
Province of Saskatchewan

Honourable
Dallas Schmidt
Minister of Agriculture
Province of Alberta

Honourable
Bill Uruski
Minister of Agriculture
Province of Manitoba

Members of Council

Name

CHAIRMAN
G. Nystuen
Spalding, Saskatchewan

VICE-CHAIRMAN
D. C. Manderson
Ryley, Alberta

COUNCILLORS
J. Enns
Oak Bluff, Manitoba

R. S. Forrest
Engineering and Rural Services Division
Alberta Agriculture
Edmonton, Alberta

H. P. Harrison
Agricultural Engineering Department
University of Alberta
Edmonton, Alberta

E. P. Hudek
Winnipeg, Manitoba

R. S. Malinowski,
Leon's Manufacturing Co. Ltd.
Yorkton, Saskatchewan

L. Masur
Nokomis, Saskatchewan

B. Nicholson
Shoal Lake, Manitoba

M. Westby
Watrous, Saskatchewan

SECRETARY
J. P. Melin, Acting Director
Prairie Agricultural Machinery Institute
Humboldt, Saskatchewan

Letter of Transmittal

Regina, Saskatchewan
March 1982

His Honour Irwin McIntosh
Lieutenant Governor
Province of Saskatchewan

May It Please Your Honour:

Pursuant to Section 19(1) and (2) of the Prairie Agricultural Machinery Institute Act, R.S.S. 1978, I respectfully submit, for your consideration, the Annual Report of The Prairie Agricultural Machinery Institute for the fiscal year ending March 31, 1982.

Your obedient servant,

Gordon MacMurchy
Minister of Agriculture
Province of Saskatchewan

Letter of Transmittal

Humboldt, Saskatchewan
March 1982

Honourable Gordon MacMurchy
Minister of Agriculture
Province of Saskatchewan

Honourable Dallas Schmidt
Minister of Agriculture
Province of Alberta

Honourable Bill Uruski
Minister of Agriculture
Province of Manitoba

Sirs:

It is my honour to present the Annual Report and audited financial statements of the Prairie Agricultural Machinery Institute for the fiscal year ending March 31, 1982.

Respectfully submitted,

G. Nystuen, Chairman
Prairie Agricultural
Machinery Institute Council

THE MACHINERY INSTITUTE

"to improve the design and aid in the selection and use of agricultural machinery in the prairie provinces"

MACHINERY INSTITUTE

To achieve this goal, the provinces of Alberta, Manitoba and Saskatchewan established the Prairie Agricultural Machinery Institute as a unique resource to the farmers and agricultural machinery manufacturers of the prairies. Since its inception October 10, 1974, programs to provide for the evaluation and development of agricultural machines, for research into matters concerning agricultural machines and for the extension of information on agricultural machines have been the primary concern of the Machinery Institute.

The Institute Head Office is located at Humboldt, Saskatchewan, with test stations at Lethbridge, Alberta; Portage la Prairie, Manitoba and Humboldt, Saskatchewan.

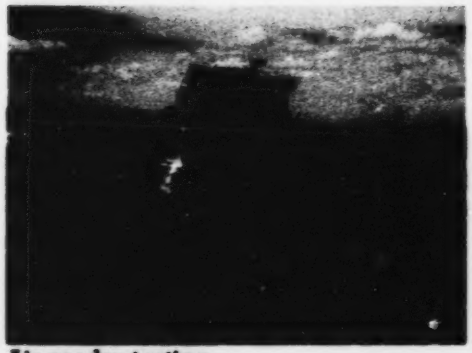
Under the direction of the Prairie Agricultural Machinery Institute Council, an appointed board of farmers, manufacturers, implement dealers and government representatives, a major program of evaluation, development, research and extension is carried out in each of the three provinces. These programs are divided between the accumulation and dissemination of information on agricultural machines and the provision of technical support services to the manufacturers of farm machines on the prairies.

The acquisition of information on agricultural machines is the result of an extensive program of field and laboratory testing of every machine on which the Institute reports. The field testing of most machines must be completed during the summer farming months while the analysis of results and the preparations of reports occupies the rest of the year, resulting in the publication of approximately 60 reports per year.

Prairie manufacturers continue to find the support of the Institute useful in maintaining technical equality with their larger national and international competitors. The Institute attempts to provide the technical resources for smaller prairie manufacturers which large, major manufacturers have the ability to provide for themselves. In so doing, the prairie manufacturer contracts for the use of technical personnel or equipment only for the time actually required. In this way the manufacturer has access to technology which would not normally be available to a small firm.

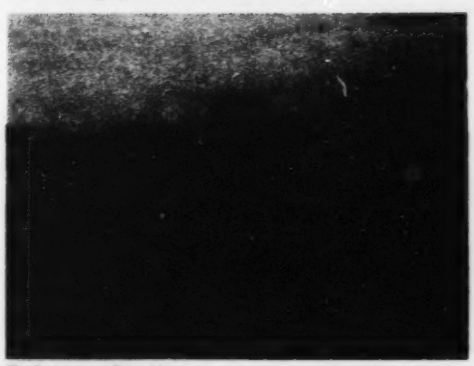
The work of the Institute results in the production of reports on farm machinery matters circulated to almost 15,000 subscribers in the prairie provinces and internationally. In addition, findings of the Institute are broadly disseminated through seminars, workshops, displays and media releases. Institute technical personnel present their findings at scientific and professional gatherings and participate on many committees dealing with the advancement of agricultural machinery technology.

The increasing cost and complexity of farm machinery combined with the farmer's need for cost-effectiveness makes the work of the Machinery Institute more challenging as time goes by. The opportunity for the development of new machines and systems through cooperation with the farmers and machinery manufacturers on the prairies holds great promise for the future of the Prairie Agricultural Machinery Institute.



Air seeder testing

Row crop planter evaluation



Baler evaluation

EVALUATION

The Machinery Institute undertakes the evaluation of the functional performance of machines used by farmers on the prairies. To establish the functional performance of most machines a combination of laboratory and field testing is required. Although laboratory testing is a year-round project, the majority of field testing is concentrated in the prairie growing season. During this period, crews from all three stations operate in all parts of the prairie provinces seeking crop and field conditions necessary to the comprehensive testing of machines. In the summer of 1981, Institute technical staff worked on the evaluation of 109 different machines of which 67 were initiated during the year and 42 were continuing evaluations started in the previous season. On March 31, 1982, 62 machines were in the process of evaluation.

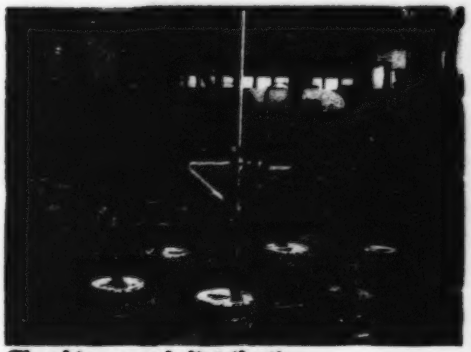
Evaluation reports on 72 machines were published and distributed to subscribers during 1981-82 bringing the total number of reports published by the Institute to 275 since its inception in 1976.

A summary, by machine type, of the distribution of machines evaluated during 1981-82 and in total since 1976 is shown below:

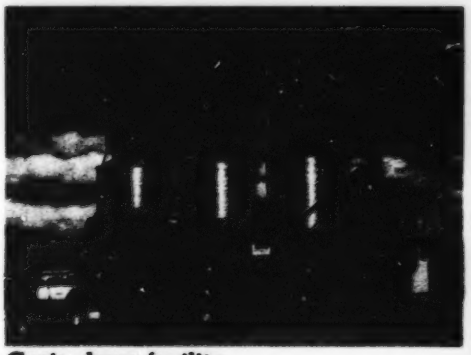
Machine Type	April 1, 1981 - March 31, 1982	1976 - March 31, 1982
Farmstead equipment	—	12%
Fertilizing and irrigating	—	1%
Harvesting	26%	27%
Livestock and dairy	21%	12%
Materials handling	6%	5%
Monitoring	18%	13%
Pest and weed control	1%	5%
Seeding	6%	8%
Tillage	21%	11%
Wagons and transporters	1%	6%

The machines being evaluated during 1981-82 were as follows:

Field sprayers	1	Snowblowers	2
Sprayer monitors	3	Disc harrows	2
Pneumatic seeders	3	Fencers	15
Balers	5	Grain dryers	2
Harrow/packer drawbars	1	Tractor monitors	2
Irrigation systems	2	F.M. radios	5
Pneumatic conveyors	3	Depth controls	1
Heavy duty cultivators	3	Grain augers	12
Floater sprayers	1	Forage moisture meters	4
Grain moisture meters	9	Potato harvesters	1
Grain combines	6	Stock medicators	9
Field cultivators	2	Forage harvesters	3
Rock pickers	5	Windrowers	3
Rock windrowers	1	Self-propelled grain auger attachments	2



Checking seed distribution



Grain dryer facility

Pneumatic conveyor evaluation

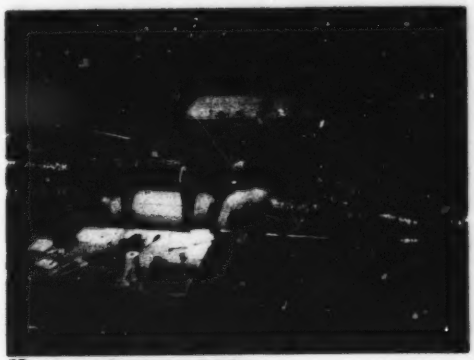
DEVELOPMENT

The Institute undertakes the development of new and modified machines for prairie manufacturers on a contractual basis. Manufacturers who use the Institute's development services benefit from the availability of sophisticated technical facilities and experienced, agriculturally knowledgeable, engineering personnel. Development services are offered in the design of new machines, the modification of existing machines and the testing of prototype or pre-production machines to be marketed on the prairies.

There is two-fold return on development work for both manufacturers and the Institute. Prairie manufacturers gain access to capital intensive high technology resources, improving their ability to compete with much larger major machinery manufacturers, while Institute personnel gain experience in the practical problems of the manufacturer resulting in a more pragmatic assessment of machine performance and more useful Evaluation Reports.

Development activity during the year showed a marked increase both in numbers of projects and in value of work completed under contract. Major activities centred on development work in grain drying. The need for continuing examination of drying technology has resulted in a decision to expand the Institute's grain drying test facility and to build a facility for testing aeration and ventilation fans.

Development projects for prairie manufacturers numbered 32 during 1981-82 with 27 projects being underway at year-end.



Heat exchanger tests

Falling objects protective structure tests

RESEARCH

In addition to programs of evaluation and development, the Machinery Institute undertakes a program of research into matters concerning the performance of agricultural machines and into the development of new or modified agricultural machines for prairie requirements.

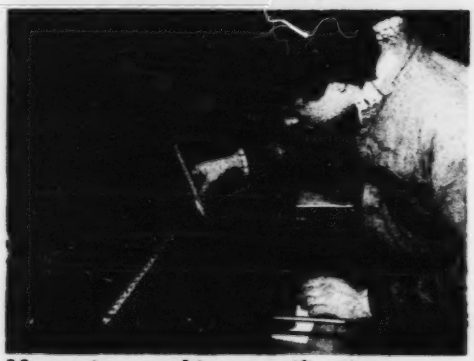
The Institute research program is primarily devoted to joint research undertakings between the Institute and universities, research councils or industry. A common practice combines the specialized capabilities of scientific researchers outside the Institute with the practical knowledge and testing capabilities of Institute personnel. The result has been productive and demonstrates the usefulness of this research partnership.

In 1981-82 one new research project was begun, one was completed and four were in progress at year-end. Of these, the projects having major impact on Institute activities involved grain drying.

Tests were conducted in cooperation with the University of Saskatchewan to determine a procedure for adding water to corn without changing the corn's drying characteristics. This procedure, called tempering, has been successfully used in evaluation and development projects to determine and improve grain dryer performance in corn.

In addition, research was initiated to determine the standard conditions for stating grain dryer performance in the evaluation reports. This included developing a procedure for mathematically adjusting performance results obtained at other conditions to these standard conditions.

Windrowing with a floating cutterbar



Measuring machine specifications

Instrumentation for power measurements

Statement 1

Prairie Agricultural Machinery Institute
STATEMENT OF FINANCIAL POSITION
March 31, 1982
(with comparative figures at March 31, 1981)

ASSETS	1982	1981
Current:		
Bank	$ —	$ 35,894
Prepaid expenses	75,294	50,286
Short-term investments, at cost	999,265	1,131,823
Accounts receivable	57,254	41,077
Travel advances	2,700	3,550
	1,134,513	1,262,630
Fixed: at cost		
Buildings	2,564,055	2,483,552
Equipment — for evaluation	110,670	129,597
Equipment	1,302,565	1,092,525
Land improvements	347,309	344,536
Furniture	270,169	258,004
Vehicles	225,312	204,589
Reference material	12,970	12,970
	4,833,050	4,525,773
	$5,967,563	$5,788,403

LIABILITIES AND EQUITY	1982	1981
Current:		
Bank overdraft	$ 102,659	$ —
Accounts payable	82,600	78,519
Unearned subscription income	101,654	51,842
	286,913	130,361
Equity:		
Equity in fixed assets	4,833,050	4,525,773
Operating surplus (Statement 2)	847,600	1,132,269
	$5,680,650	$5,658,042
	$5,967,563	$5,788,403

(See accompanying notes to the financial statements)

Statement 2

Prairie Agricultural Machinery Institute
STATEMENT OF OPERATIONS AND OPERATING SURPLUS
Year Ended March 31, 1982
(with comparative figures for the 1981 year)

Revenue: (Note 1)	1982	1981
Provincial grants		
— Saskatchewan	$1,073,473	$1,168,010
— Alberta	834,924	908,452
— Manitoba	477,099	519,116
	2,385,496	2,595,578
Fees for service	67,671	26,371
Investment income	295,201	184,913
Other income	24,036	11,824
Sale of fixed assets	54,444	41,853
Subscription income	78,043	64,783
Total revenue	2,904,891	2,925,322
Expenditure (Schedule 1)	3,189,560	2,706,868
Excess of revenue over expenditure (expenditure over revenue)	(284,669)	218,454
Operating surplus, beginning of year	1,132,269	913,815
Operating surplus, end of year	$ 847,600	$1,132,269

(See accompanying notes to the financial statements)

NOTES TO FINANCIAL STATEMENTS
March 31, 1982

1. Significant Accounting Policies

Generally Accepted Accounting Principles

In accordance with generally accepted accounting principles, the Institute follows the accrual basis of accounting. Since the acquisition of fixed assets is financed primarily through grants received from the Provinces of Manitoba, Saskatchewan and Alberta, transactions affecting fixed assets are accounted for on a fund accounting basis. That is, in the Statement of Operations and Operating Surplus (Statement 2), all grants are recorded as revenue and the purchase of fixed assets are recorded as an expense. Accordingly, no provision has been made for depreciation of fixed assets. To maintain accountability for fixed assets, they are recorded as a balance sheet asset with a corresponding entry to "Equity in Fixed Assets".

Unearned Subscription Income

Subscription revenue for published reports is taken into an unearned subscription account as received and is amortized to income as the revenue is earned. The portion which relates to future years is shown as unearned subscription income in the Statement of Financial Position.

Funding

In accordance with an agreement signed by the Provinces of Manitoba, Saskatchewan and Alberta, funding is received in the following proportions:

Saskatchewan	45%
Alberta	35%
Manitoba	20%

The Institute in accordance with the authority included in O.C. 1800/79 follows the policy of retaining the operating surplus earned in the year.

2. Incorporation

The Prairie Agricultural Machinery Institute was established as a body corporate under The Prairie Agricultural Machinery Institute Act, Chapter 2, 1973-74, Revised Statutes of Saskatchewan and is continued under Chapter P-21, Revised Statutes of Saskatchewan, 1978.

The duties of the Institute include:

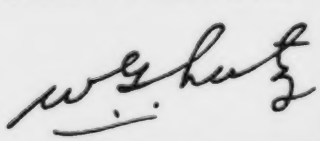
a) to test and appraise under actual or simulated working conditions, machinery sold or offered or intended for sale;
b) to undertake development work to improve and develop machinery for agricultural use;
c) to publish such reports, pamphlets and bulletins as are consistent with the intent of the Act.

Prairie Agricultural Machinery Institute
AUDITOR'S REPORT

To the Members of the Legislative Assembly
Province of Saskatchewan

I have examined the statement of financial position of the Prairie Agricultural Machinery Institute as at March 31, 1982, and the statement of operations and operating surplus for the year then ended. My examination was made in accordance with generally accepted auditing standards, and accordingly included such tests and other procedures as I considered necessary in the circumstances.

In my opinion, these financial statements present fairly the financial position of the Prairie Agricultural Machinery Institute as at March 31, 1982, and the results of its operations for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.



Regina, Saskatchewan
May 7, 1982.

W. G. Lutz, F.C.A.,
Provincial Auditor.

Prairie Agricultural Machinery Institute
SCHEDULE OF EXPENDITURE
Year Ended March 31, 1982
(with comparative figures for the 1981 year)

Schedule 1

	Administration	Testing Equipment	Extension	Capital	1982 Total	1981 Total
Advertising and promotion	$ 7,683	$ 7,486	$ —	$ —	$ 15,169	$ 21,249
Bad debts	—	5,332	—	—	5,332	—
Building	—	—	—	78,054	78,054	6,032
Computer services	46,789	3,633	—	—	50,422	50,931
Contractual services	43,533	24,230	—	—	67,763	49,194
Employee benefits	14,178	105,267	4,725	—	124,170	107,371
Equipment – machinery to be evaluated	—	—	—	44,575	44,575	25,552
Equipment	—	—	—	219,993	219,993	205,123
Furniture and fixtures	—	—	—	12,270	12,270	9,299
Honoraria	14,410	—	—	—	14,410	6,950
Insurance, licenses and taxes	68,925	6,918	—	—	75,843	62,423
Land improvements	—	—	—	2,774	2,774	36,101
Printing and binding	250,605	—	—	—	250,605	101,651
Professional and technical services	9,926	—	—	—	9,926	5,678
Reference material	232	10,477	—	—	10,709	11,034
Rent – building and equipment	—	100,764	—	—	100,764	89,444
– equipment to be evaluated	—	105,047	—	—	105,047	120,844
Repairs and maintenance – building and equipment	16,071	34,381	—	—	50,452	51,493
Salaries	239,248	1,131,078	79,198	—	1,449,524	1,268,557
Shop supplies	—	125,188	—	—	125,188	121,874
Stationery and office supplies	52,121	49,989	6,202	—	108,312	67,396
Telephone and telegraph	18,441	32,879	1,190	—	52,510	49,537
Travel and vehicle operations	51,974	84,024	5,194	—	141,192	154,844
Tuition fees	—	—	—	—	—	2,274
Utilities	53,834	—	—	—	53,834	43,296
Vehicles	—	—	—	20,722	20,722	38,721
	$ 887,970	$1,826,693	$ 96,509	$ 378,388	$3,189,560	$2,706,868

MACHINERY INSTITUTE

PRAIRIE AGRICULTURAL MACHINERY INSTITUTE

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